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Mr. Alfred

SUMMARY

A SEARCH FOR QUARKS PRODUCED IN HEAVY-ION INTERACTIONS

Irvine<sup>1</sup>, LBL<sup>2</sup>, San Francisco State<sup>3</sup> Collaboration

R. Bland<sup>3</sup>, C. Hodges<sup>3</sup>, J. Huntington<sup>3</sup>, H. Matis<sup>2</sup>,  
H. Pugh<sup>2</sup>, M. Savage<sup>3</sup>, G. Shaw<sup>1</sup>, and A. Steiner<sup>3</sup>

Spokeman: G. Shaw  
Contactman: P. Sonderegger

We propose to search for free fractional charges produced in 225 GeV/A heavy-ion collisions at the SPS. A tank of mercury placed in the NA38 beam stop will serve both as a production target and as an absorber to stop reaction products. Mercury from the tank will subsequently be distilled. This process will decrease the amount of mercury that has to be processed by a factor of about  $10^5$ . The concentrate will be searched for quarks using the proven SFSU automated Millikan apparatus. This experiment will be sensitive to about one quark produced per  $2 \times 10^8$  beam particles.

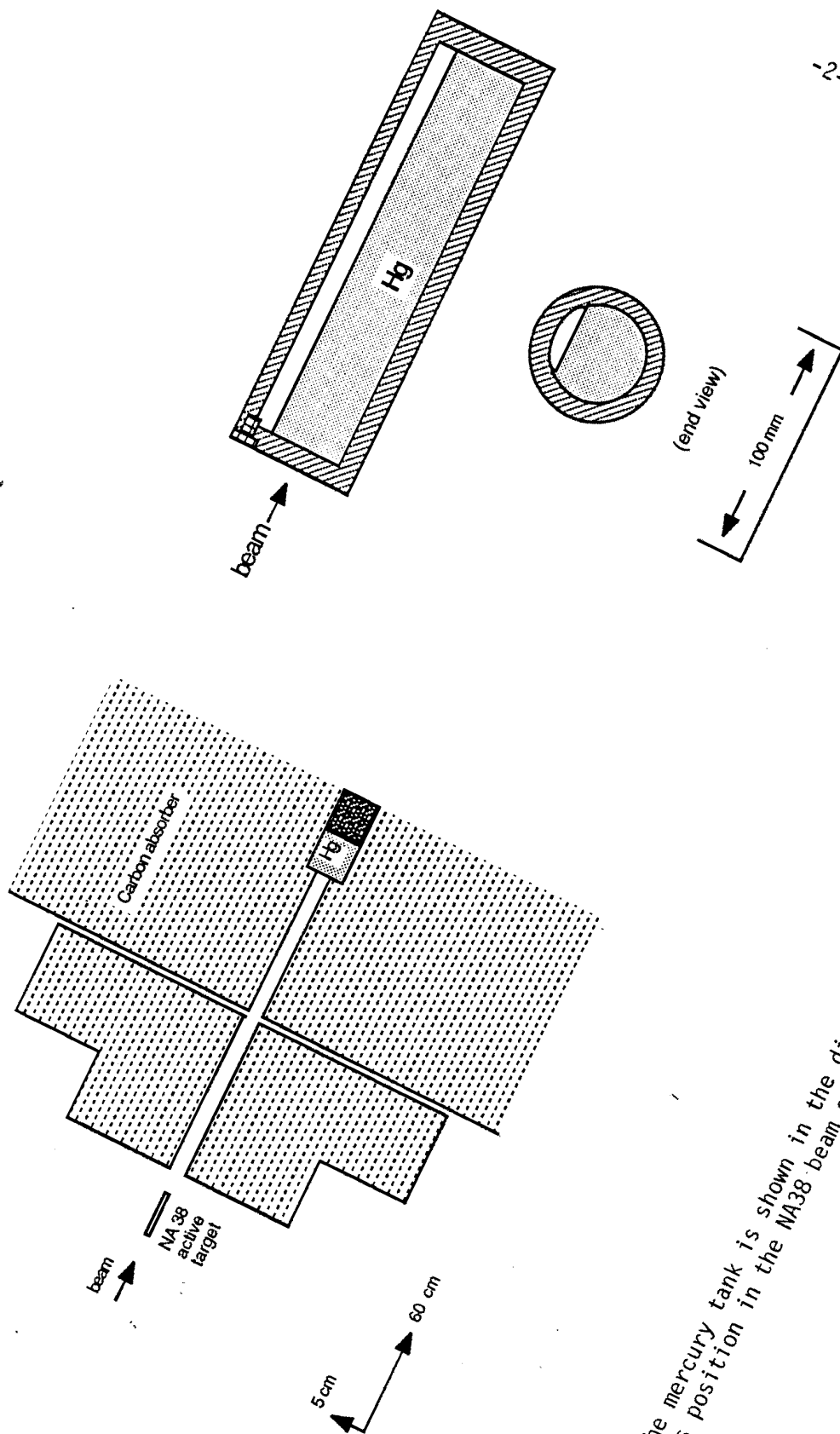


Fig. 1 The mercury tank is shown in the diagram on the right. The diagram on the left shows its position in the NA38 beam stop.